

CD097PCT.ST25.txt
SEQUENCE LISTING

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<120> Monocotyledonous plants having improved growth characteristics and a method for making the same

<130> CD-097-PCT

<150> EP 03076719.8

<151> 2003-06-03

<160> 30

<170> PatentIn version 3.2

<210> 1

<211> 2313

<212> DNA

<213> Oryza sativa

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<213> Oryza sativa

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CD097PCT.ST25.txt

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 <212> PRT
 <213> Suaeda maritima subsp. salsa

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CD097PCT.ST25.txt

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Ile Ile Ile Leu Leu Ile Ser Gly Gly Lys Ser Ser His Leu Leu Val
 65                               70                               75                               80
Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe
 85                               90                               95
Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile
 100                              105                              110
Thr Ile Ile Leu Phe Gly Ala Val Gly Thr Leu Val Ser Phe Ile Ile
 115                              120                              125
Ile Ser Leu Gly Ser Ile Ala Ile Phe Gln Lys Met Asp Ile Gly Ser
 130                              135                              140
Leu Glu Leu Gly Asp Leu Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr
 145                              150                              155                              160
Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu
 165                              170                              175
Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser
 180                              185                              190
Val Val Leu Phe Asn Ala Ile Gln Asn Phe Asp Leu Thr His Ile Asp
 195                              200                              205
His Arg Ile Ala Phe Gln Phe Gly Gly Asn Phe Leu Tyr Leu Phe Phe
 210                              215                              220
Ala Ser Thr Leu Leu Gly Ala Val Thr Gly Leu Leu Ser Ala Tyr Val
 225                              230                              235                              240
Ile Lys Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala
 245                              250                              255
Leu Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe
 260                              265                              270
Tyr Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser
 275                              280                              285
His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Lys
 290                              295                              300
His Ala Phe Ala Thr Leu Ser Phe Val Ala Glu Ile Phe Ile Phe Leu
 305                              310                              315                              320
Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Arg Phe Val Ser
 325                              330                              335
Asp Ser Pro Gly Thr Ser Val Ala Val Ser Ser Ile Leu Leu Gly Leu

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CD097PCT.ST25.txt

340	345	350
His Met Val Gly Arg Ala Ala Phe Val Phe Pro Phe Ala Phe Leu Met		
355	360	365
Asn Leu Ser Lys Lys Ser Asn Ser Glu Lys Val Thr Phe Asn Gln Gln		
370	375	380
Ile Val Ile Trp Trp Ala Gly Leu Met Lys Ser Ala Val Ser Val Ala		
385	390	395
Leu Ala Tyr Asn Gln Phe Ser Arg Ser Gly His Thr Gln Leu Arg Gly		
405	410	415
Asn Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr		
420	425	430
Met Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Leu Phe Met Leu Pro		
435	440	445
Gln Pro Lys His Phe Thr Ser Ala Ser Thr Val Ser Asp Leu Gly Ser		
450	455	460
Pro Lys Ser Phe Ser Leu Pro Leu Leu Glu Asp Arg Gln Asp Ser Glu		
465	470	475
Ala Asp Leu Gly Asn Asp Asp Glu Glu Ala Tyr Pro Arg Gly Thr Ile		
485	490	495
Ala Arg Pro Thr Ser Leu Arg Met Leu Leu Asn Ala Pro Thr His Thr		
500	505	510
Val His His Tyr Trp Arg Arg Phe Asp Asp Tyr Phe Met Arg Pro Val		
515	520	525
Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Thr Glu		
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Gln Ser Ile Thr Asn Phe Val Thr Glu Asn Ile Ser		
545	550	555

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 <211> 1623
 <212> DNA
 <213> Zea mays

<400> 9

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tccggtttga	ccttgccagg	gttaagccaa	gatgagacac	cattcttgta	cagtcttgta	540
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CD097PCT.ST25.txt

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gcgtatctct cctacatgtt ggcggaactc ttcgcgctga gcgggatctt gacggtattc 840
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<210> 10
 <211> 540
 <212> PRT
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<400> 10

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Leu Leu Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg
35        40        45
Trp Val Asn Glu Ser Thr Ala Leu Ile Val Gly Leu Gly Thr Gly Thr
50        55        60
Val Ile Leu Met Ile Ser Arg Gly Val Val Ile His Val Leu Val Phe
65        70        75        80
Ser Glu Asp Leu Phe Phe Phe Tyr Leu Leu Pro Pro Ile Ile Phe Asn
85        90        95
Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile Thr
100       105       110
Ile Thr Leu Phe Gly Ala Val Gly Thr Leu Ile Ser Phe Thr Val Ile
115       120       125
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130       135       140
Glu Leu Gly Asp Tyr Leu Ala Leu Gly Ala Ile Phe Ser Ala Thr Asp
145       150       155       160
Ser Val Cys Thr Leu Gln Val Leu Ser Gln Asp Glu Thr Pro Phe Leu
165       170       175
Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val

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CD097PCT.ST25.txt

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Glu Val Val Phe His Leu Leu	Gly Asn Phe Phe Tyr	Leu Phe Leu Leu
210	215	220
Ser Thr Val Leu Gly Val Ala Thr Gly Leu Ile Ser Ala Leu Val Ile		
225	230	235
Lys Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu		
245	250	255
Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ala		
260	265	270
Leu Ser Gly Ile Leu Thr Val Phe Phe Gly Cys Ile Val Met Ser His		
275	280	285
Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His		
290	295	300
Ala Phe Ala Thr Leu Ser Phe Leu Ala Glu Thr Phe Leu Phe Leu Tyr		
305	310	315
Val Gly Met Asp Ala Leu Asp Ile Asp Lys Trp Arg Ser Val Ser Asp		
325	330	335
Thr Pro Gly Lys Ser Leu Ala Ile Ser Ser Ile Leu Met Gly Leu Val		
340	345	350
Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn		
355	360	365
Leu Ala Lys Lys Thr Glu His Glu Lys Ile Ser Trp Lys Gln Gln Val		
370	375	380
Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu		
385	390	395
Ala Tyr Lys Lys Phe Thr Arg Ala Gly His Thr Gln Val Arg Gly Asn		
405	410	415
Ala Ile Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Met		
420	425	430
Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro His		
435	440	445
Arg Asn Ala Thr Ser Met Leu Ser Asp Asp Ser Ser Pro Lys Ser Leu		
450	455	460
His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Asp Leu Glu Glu Pro		
465	470	475
Thr Asn Ile Pro Arg Pro Ser Ser Ile Arg Gly Glu Phe Leu Thr Met		
485	490	495

CD097PCT.ST25.txt

Thr Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Ala Phe Met
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Arg Pro Met Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser
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Pro Thr Glu Arg Asn Pro Pro Asp Leu Ser Lys Ala
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 <211> 1623
 <212> DNA
 <213> Zea mays

<400> 11

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 <213> Zea mays

<400> 12

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CD097PCT.ST25.txt

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65	70	75	80
Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe			
85	90	95	
Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile			
100	105	110	
Thr Ile Ile Leu Phe Gly Ala Ile Gly Thr Leu Ile Ser Phe Val Ile			
115	120	125	
Ile Ser Leu Gly Ala Met Gly Leu Phe Lys Lys Leu Asp Val Gly Pro			
130	135	140	
Leu Glu Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr			
145	150	155	160
Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu			
165	170	175	
Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser			
180	185	190	
Ile Val Val Phe Asn Ala Leu Gln Asn Phe Asp Ile Thr His Ile Asn			
195	200	205	
Ala Glu Val Val Phe His Leu Leu Gly Asn Phe Leu Tyr Leu Phe Leu			
210	215	220	
Leu Ser Thr Val Leu Gly Val Ala Thr Gly Leu Ile Ser Ala Leu Val			
225	230	235	240
Ile Lys Lys Ile Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala			
245	250	255	
Leu Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe			
260	265	270	
Ala Leu Ser Gly Ile Leu Thr Val Phe Phe Gly Cys Ile Val Met Ser			
275	280	285	
His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys			
290	295	300	
His Ala Phe Ala Thr Leu Ser Phe Leu Ala Glu Thr Phe Ile Phe Leu			
305	310	315	320
Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Arg Ser Val Ser			
325	330	335	
Asp Thr Pro Gly Lys Ser Ile Ala Ile Ser Ser Ile Leu Met Gly Leu			
340	345	350	

CD097PCT.ST25.txt

Val Met Leu Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser
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 385 390 395 400
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 405 410 415
 Asn Glu Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr
 420 425 430
 Val Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Arg Leu Leu Met Pro
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 His Arg His Leu Thr Met Leu Ser Asp Asp Ser Thr Pro Lys Ser Leu
 450 455 460
 His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Ser Ile Glu Glu Pro
 465 470 475 480
 Thr Gln Ile Pro Arg Pro Thr Asn Ile Arg Gly Glu Phe Thr Thr Met
 485 490 495
 Thr Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Lys Phe Met
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 <213> Zea mays

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CD097PCT.ST25.txt

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 <213> Zea mays

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 35 40 45
 Asn Glu Ser Ile Thr Ala Ile Leu Val Gly Ala Ala Thr Gly Thr Val
 50 55 60
 Ile Leu Leu Ile Ser Lys Gly Lys Ser Ser His Ile Leu Val Phe Asp
 65 70 75 80
 Glu Glu Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala
 85 90 95
 Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile Thr Ile
 100 105 110
 Ile Leu Phe Gly Ala Ile Gly Thr Leu Ile Ser Phe Val Ile Ile Ser
 115 120 125
 Leu Gly Ala Met Gly Leu Phe Lys Lys Leu Asp Val Gly Pro Leu Glu
 130 135 140
 Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp Ser
 145 150 155 160
 Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr
 165 170 175
 Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val
 180 185 190
 Leu Phe Asn Ala Val Gln Lys Ile Asp Phe Glu His Leu Thr Gly Glu
 195 200 205

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Val	Ala	Leu	Gln	Val	Phe	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Ser	Thr	Ser	210	215	220
Thr	Val	Leu	Gly	Ile	Ala	Thr	Gly	Leu	Ile	Thr	Ala	Phe	Val	Leu	Lys	225	230	235
Thr	Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Thr	Arg	Glu	Leu	Ala	Ile	Met	245	250	255
Val	Leu	Met	Ala	Tyr	Leu	Ser	Phe	Met	Leu	Ala	Glu	Leu	Phe	Ser	Leu	260	265	270
Ser	Gly	Ile	Ile	Thr	Val	Phe	Phe	Cys	Gly	Val	Leu	Met	Ser	His	Val	275	280	285
Thr	Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Ile	Thr	Ser	Arg	His	Val	290	295	300
Phe	Ala	Met	Leu	Ser	Phe	Ile	Ala	Glu	Thr	Phe	Leu	Phe	Leu	Tyr	Val	305	310	315
Gly	Thr	Asp	Ala	Leu	Asp	Phe	Thr	Lys	Trp	Lys	Thr	Ser	Ser	Leu	Ser	325	330	335
Phe	Gly	Lys	Ser	Leu	Gly	Val	Ser	Ser	Val	Leu	Leu	Gly	Leu	Val	Leu	340	345	350
Val	Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	355	360	365
Ser	Lys	Lys	His	Pro	Gly	Glu	Lys	Ile	Thr	Ile	Arg	Gln	Gln	Val	Val	370	375	380
Ile	Trp	Trp	Ala	Gly	Leu	Met	Arg	Gly	Ala	Val	Ser	Ile	Ala	Leu	Ala	385	390	395
Phe	Asn	Lys	Phe	Thr	Arg	Ala	Gly	His	Thr	Gln	Val	Arg	Gly	Asn	Ala	405	410	415
Ile	Met	Ile	Thr	Ser	Thr	Ile	Ile	Val	Val	Leu	Phe	Ser	Thr	Val	Val	420	425	430
Phe	Gly	Leu	Leu	Thr	Lys	Pro	Leu	Ile	Asn	Leu	Leu	Ile	Pro	His	Arg	435	440	445
Asn	Ala	Thr	Ser	Met	Leu	Ser	Asp	Asp	Ser	Ser	Pro	Lys	Ser	Leu	His	450	455	460
Ser	Pro	Leu	Leu	Thr	Ser	Gln	Leu	Ile	Ser	Ser	Ile	Glu	Glu	Pro	Thr	465	470	475
Gln	Ile	Pro	Arg	Pro	Thr	Asn	Ile	Arg	Gly	Glu	Phe	Met	Thr	Met	Thr	485	490	495
Arg	Thr	Val	His	Arg	Tyr	Trp	Arg	Lys	Phe	Asp	Asp	Lys	Phe	Met	Arg	500	505	510
Pro	Met	Phe	Gly	Gly	Arg	Gly	Phe	Val	Pro	Phe	Val	Pro	Gly	Ser	Pro			

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515 520 525

Thr Glu Arg Ser Ser Pro Asp Leu Ser Lys Ala
530 535

<210> 15
<211> 1617
<212> DNA
<213> Zea mays

<400> 15

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<211> 538
<212> PRT
<213> Zea mays

<400> 16

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Asp	His	Ala	Ser	Val	Val	Ile	Ile	Thr	Leu	Phe	Val	Ala	Leu	Leu	Cys
		20						25					30		
Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Leu	Asn
		35					40					45			
Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Gly	Thr	Gly	Val	Val	Ile
		50					55				60				
Leu	Leu	Ile	Ser	Arg	Gly	Lys	Asn	Ser	Arg	Leu	Leu	Val	Phe	Ser	Glu

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65		70		75		80									
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Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr	Ile	Thr
			100					105					110		
Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe	Thr	Ile	Ser	Leu
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Gly	Ala	Ile	Ala	Thr	Phe	Ser	Arg	Met	Ser	Ile	Gly	Thr	Leu	Asp	Val
	130					135					140				
Gly	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala	Thr	Asp	Ser	Val
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Cys	Thr	Leu	Gln	Val	Leu	His	Gln	Asp	Glu	Thr	Pro	Phe	Leu	Tyr	Ser
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Leu	Val	Phe	Gly	Glu	Gly	Val	Val	Asn	Asp	Ala	Thr	Ser	Val	Val	Leu
			180					185					190		
Phe	Asn	Ala	Val	Gln	Lys	Ile	Gln	Phe	Thr	His	Ile	Asn	Ala	Trp	Thr
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Ala	Leu	Gln	Leu	Ile	Gly	Asn	Phe	Leu	Tyr	Leu	Phe	Ser	Thr	Ser	Thr
	210					215					220				
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Leu	Tyr	Phe	Gly	Arg	His	Ser	Thr	Thr	Arg	Glu	Leu	Ala	Ile	Met	Ile
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Gly	Leu	Leu	Thr	Val	Phe	Phe	Cys	Gly	Val	Leu	Met	Ser	His	Val	Thr
	275						280					285			
Trp	His	Asn	Val	Thr	Glu	Ser	Ser	Arg	Thr	Thr	Ser	Arg	His	Val	Phe
	290					295					300				
Ala	Thr	Leu	Ser	Phe	Ile	Ser	Glu	Thr	Phe	Ile	Phe	Leu	Tyr	Val	Gly
305					310					315					320
Met	Asp	Ala	Leu	Asp	Phe	Glu	Lys	Trp	Lys	Thr	Ser	Ser	Leu	Ser	Phe
			325						330					335	
Gly	Gly	Thr	Leu	Gly	Val	Ser	Gly	Val	Leu	Met	Gly	Leu	Val	Met	Leu
			340					345					350		
Gly	Arg	Ala	Ala	Phe	Val	Phe	Pro	Leu	Ser	Phe	Leu	Ser	Asn	Leu	Ala
	355						360					365			
Lys	Lys	His	Gln	Ser	Glu	Lys	Ile	Ser	Phe	Arg	Met	Gln	Val	Val	Ile
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Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu Ala Leu
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 Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His Gly Asn Ala Ile
 405 410 415
 Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Met Val Phe
 420 425 430
 Gly Met Ile Thr Lys Pro Leu Ile Arg Leu Leu Leu Pro Ala Ser Gly
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 His Pro Arg Glu Leu Ser Glu Pro Ser Ser Pro Lys Ser Phe His Ser
 450 455 460
 Pro Leu Leu Thr Ser Gln Gln Gly Ser Asp Leu Glu Ser Thr Thr Asn
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 Ile Val Arg Pro Ser Ser Leu Arg Gly Leu Leu Thr Lys Pro Thr His
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 Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu Met Arg Pro
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 Glu Arg Asn Pro Pro Asp Leu Ser Lys Ala
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 <212> DNA
 <213> Hordeum vulgare

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<210> 18

<211> 538

<212> PRT

<213> Hordeum vulgare

<400> 18

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			20					25					30		

Ala	Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn
		35				40						45			

Arg	Trp	Leu	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr
	50					55					60				

Gly	Val	Val	Ile	Leu	Met	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Val	Leu
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Val	Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile
				85					90					95	

Phe	Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe
			100					105					110		

Met	Thr	Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe
		115					120					125			

Thr	Ile	Ser	Leu	Ala	Ala	Ile	Ala	Ile	Phe	Ser	Lys	Met	Asn	Ile	Gly
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Thr	Leu	Asp	Val	Ser	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala
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Phe Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr
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Ser Val Val Leu Phe Asn Ala Leu Gln Asn Phe Asp Pro Asn Gln Ile
195                               200                               205

Asp Ala Ile Val Ile Leu Lys Phe Leu Gly Asn Phe Cys Tyr Leu Phe
210                               215                               220

Val Ser Ser Thr Phe Leu Gly Val Phe Ser Gly Leu Leu Ser Ala Tyr
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Ile Ile Lys Lys Leu Tyr Ile Gly Arg His Ser Thr Asp Arg Glu Val
245                               250                               255

Ala Leu Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu
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Leu Asp Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met
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Ser His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr
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Lys His Ala Phe Ala Thr Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe
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Leu Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Ala
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Ser Asp Ser Pro Gly Lys Ser Ile Gly Ile Ser Ser Ile Leu Leu Gly
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Ser Asn Leu Thr Lys Lys Thr Glu Leu Glu Lys Ile Ser Trp Arg Gln
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Gln Ile Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile
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Gly Asn Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser
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Thr Met Leu Phe Gly Ile Leu Thr Lys Pro Leu Ile Arg Phe Leu Leu
435                               440                               445

Pro Ala Ser Ser Asn Gly Asp Pro Ser Glu Pro Ser Ser Pro Lys Ser
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Leu His Ser Pro Leu Leu Thr Ser Met Leu Gly Ser Asp Met Glu Ala
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 485 490 495

Pro Thr His Thr Ile His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu
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Ser Pro Thr Asp Pro Asn Val Ile Val Ala
 530 535

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 <211> 2422
 <212> DNA
 <213> Triticum aestivum

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CD097PCT.ST25.txt

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 <212> PRT
 <213> Triticum aestivum

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 35 40 45
 Arg Trp Leu Asn Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Cys Thr
 50 55 60
 Gly Val Val Ile Leu Met Thr Thr Lys Gly Lys Ser Ser His Val Leu
 65 70 75 80
 Val Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile
 85 90 95
 Phe Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe
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 Met Ala Ile Thr Leu Phe Gly Ala Val Gly Thr Met Met Ser Phe Phe
 115 120 125
 Thr Ile Ser Leu Ala Ala Ile Ala Ile Phe Ser Arg Met Asn Ile Gly
 130 135 140
 Thr Leu Asp Val Ser Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala
 145 150 155 160
 Thr Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro
 165 170 175
 Phe Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr
 180 185 190
 Ser Val Val Leu Phe Asn Ala Leu Gln Asn Phe Asp Pro Asn Gln Ile
 195 200 205
 Asp Ala Ile Val Ile Leu Lys Phe Leu Gly Asn Phe Cys Tyr Leu Phe
 210 215 220
 Val Ser Ser Thr Phe Leu Gly Val Phe Thr Gly Leu Leu Ser Ala Tyr
 225 230 235 240
 Val Ile Lys Lys Leu Tyr Ile Gly Arg His Ser Thr Asp Arg Glu Val
 245 250 255

CD097PCT.ST25.txt

Ala Leu Val Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu
 260 265 270
 Leu Asp Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met
 275 280 285
 Ser His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr
 290 295 300
 Lys His Ala Phe Ala Thr Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe
 305 310 315 320
 Leu Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Ala
 325 330 335
 Ser Asp Ser Pro Gly Lys Ser Ile Gly Ile Ser Ser Ile Leu Leu Gly
 340 345 350
 Leu Val Leu Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu
 355 360 365
 Ser Asn Leu Thr Lys Lys Thr Glu Leu Glu Lys Ile Ser Trp Arg Gln
 370 375 380
 Gln Ile Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile
 385 390 395 400
 Ala Leu Ala Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His
 405 410 415
 Gly Asn Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser
 420 425 430
 Thr Met Leu Phe Gly Ile Leu Thr Lys Pro Leu Ile Arg Phe Leu Leu
 435 440 445
 Pro Ala Ser Ser Asn Gly Ala Ala Ser Asp Pro Ala Ser Pro Lys Ser
 450 455 460
 Leu His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Asp Leu Glu Ala
 465 470 475 480
 Pro Leu Pro Ile Val Arg Pro Ser Ser Leu Arg Met Leu Ile Thr Lys
 485 490 495
 Pro Thr His Thr Ile His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu
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 Met Arg Pro Met Phe Gly Gly Arg Gly Phe Val Pro Tyr Ser Pro Gly
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 Ser Pro Thr Asp Pro Asn Val Leu Val Glu
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 <211> 1726
 <212> DNA

CD097PCT.ST25.txt

<213> Oryza sativa

<400> 21

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gactacgact cgatcgtcgc gatcaacatc ttcgtggcgc tgctgtgcag ctgcattgtg      180
atcgggcacc tgctggaagg gaaccgggtg gtcaatgaat ccatcaccgc gcttgtcatg      240
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<210> 22

<211> 544

<212> PRT

<213> Oryza sativa

<400> 22

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20          25          30

Leu Cys Ser Cys Ile Val Ile Gly His Leu Leu Glu Gly Asn Arg Trp
35          40          45

Val Asn Glu Ser Ile Thr Ala Leu Val Met Gly Leu Ile Thr Gly Gly
50          55          60

Val Ile Leu Leu Val Ser Gly Gly Lys Asn Ser His Ile Leu Val Phe
65          70          75          80

Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn
85          90          95

Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Met Thr

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CD097PCT.ST25.txt

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130	135	140
Gln Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp		
145	150	155
Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu		
165	170	175
Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val		
180	185	190
Val Leu Phe Asn Ala Ile Glu Asp Ile Asp Ile Ala Asn Phe Asp Ser		
195	200	205
Leu Val Leu Leu Ala Phe Ile Gly Asn Phe Leu Tyr Leu Phe Phe Thr		
210	215	220
Ser Thr Leu Leu Gly Val Val Ala Gly Leu Leu Ser Ala Tyr Ile Ile		
225	230	235
Lys Lys Leu Cys Phe Ala Arg His Ser Thr Asp Arg Glu Val Ala Ile		
245	250	255
Met Ile Leu Met Ala Tyr Leu Ser Tyr Met Leu Ser Met Leu Leu Asp		
260	265	270
Leu Ser Gly Ile Leu Thr Val Phe Phe Ser Gly Ile Val Met Ser His		
275	280	285
Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His		
290	295	300
Thr Phe Ala Thr Leu Ser Phe Ile Ala Glu Ile Phe Leu Phe Leu Tyr		
305	310	315
Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Leu Ala Ser Ser		
325	330	335
Ser Pro Lys Lys Pro Ile Ala Leu Ser Ala Thr Ile Leu Gly Leu Val		
340	345	350
Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn		
355	360	365
Leu Ser Lys Lys Glu Thr Arg Pro Lys Ile Ser Phe Lys Gln Gln Val		
370	375	380
Ile Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu		
385	390	395
Ala Tyr His Lys Phe Thr Ala Ser Gly His Thr Glu Leu Arg Ile Asn		
405	410	415

CD097PCT.ST25.txt

Ala Ile Met Ile Thr Ser Thr Val Ile Val Val Leu Phe Ser Thr Met
 420 425 430
 Val Phe Gly Phe Phe Thr Lys Pro Leu Leu Asn Leu Leu Ile Pro Pro
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 Arg Pro Asp Ile Ala Ala Asp Leu Ser Ser Gln Ser Ile Ile Asp Pro
 450 455 460
 Leu Leu Gly Ser Leu Leu Gly Ser Asp Phe Asp Val Gly Gln Pro Ser
 465 470 475 480
 Pro Gln Asn Asn Leu Gln Leu Leu Leu Thr Ile Gln Thr Arg Ser Val
 485 490 495
 His Arg Val Trp Arg Lys Phe Asp Asp Arg Phe Met Arg Pro Met Phe
 500 505 510
 Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Val Glu Arg
 515 520 525
 Ser Ile His Gly Ser Gln Leu Gly Thr Val Thr Glu Ala Glu His Ser
 530 535 540

<210> 23
 <211> 1902
 <212> DNA
 <213> *Saccharomyces cerevisiae*

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CD097PCT.ST25.txt

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aatttgagag ataaactggg aacaatcttt aattccgact cacaatgggt tcaaaatttt 1800
gatgaacagg tattgaagcc agtattcttg gacaacgttt ctccatcctt acaagattcg 1860
gctacgcaat cacctgcaga tttctcttcc caaaaccact ag 1902

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<210> 24

<211> 633

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 24

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          20          25          30
Ser Pro Asp Leu Pro Gly Ser Asp Asp Pro Ile Ala Gly Asp Pro Asp
          35          40          45
Val Asp Leu Asn Pro Val Thr Glu Glu Met Phe Ser Ser Trp Ala Leu
          50          55          60
Phe Ile Met Leu Leu Leu Leu Ile Ser Ala Leu Trp Ser Ser Tyr Tyr
65          70          75          80
Leu Thr Gln Lys Arg Ile Arg Ala Val His Glu Thr Val Leu Ser Ile
          85          90          95
Phe Tyr Gly Met Val Ile Gly Leu Ile Ile Arg Met Ser Pro Gly His
          100          105          110
Tyr Ile Gln Asp Thr Val Thr Phe Asn Ser Ser Tyr Phe Phe Asn Val
          115          120          125
Leu Leu Pro Pro Ile Ile Leu Asn Ser Gly Tyr Glu Leu Asn Gln Val
          130          135          140
Asn Phe Phe Asn Asn Met Leu Ser Ile Leu Ile Phe Ala Ile Pro Gly
145          150          155          160
Thr Phe Ile Ser Ala Val Val Ile Gly Ile Ile Leu Tyr Ile Trp Thr
          165          170          175
Phe Leu Gly Leu Glu Ser Ile Asp Ile Ser Phe Ala Asp Ala Met Ser
          180          185          190
Val Gly Ala Thr Leu Ser Ala Thr Asp Pro Val Thr Ile Leu Ser Ile
          195          200          205
Phe Asn Ala Tyr Lys Val Asp Pro Lys Leu Tyr Thr Ile Ile Phe Gly
210          215          220
Glu Ser Leu Leu Asn Asp Ala Ile Ser Ile Val Met Phe Glu Thr Cys
225          230          235          240
Gln Lys Phe His Gly Gln Pro Ala Thr Phe Ser Ser Val Phe Glu Gly

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CD097PCT.ST25.txt

245	250	255
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Leu Ile Gly Ile Leu Val Ala Leu Leu Leu Lys His Thr His Ile Arg 275 280 285		
Arg Tyr Pro Gln Ile Glu Ser Cys Leu Ile Leu Leu Ile Ala Tyr Glu 290 295 300		
Ser Tyr Phe Phe Ser Asn Gly Cys His Met Ser Gly Ile Val Ser Leu 305 310 315 320		
Leu Phe Cys Gly Ile Thr Leu Lys His Tyr Ala Tyr Tyr Asn Met Ser 325 330 335		
Arg Arg Ser Gln Ile Thr Ile Lys Tyr Ile Phe Gln Leu Leu Ala Arg 340 345 350		
Leu Ser Glu Asn Phe Ile Phe Ile Tyr Leu Gly Leu Glu Leu Phe Thr 355 360 365		
Glu Val Glu Leu Val Tyr Lys Pro Leu Leu Ile Ile Val Ala Ala Ile 370 375 380		
Ser Ile Cys Val Ala Arg Trp Cys Ala Val Phe Pro Leu Ser Gln Phe 385 390 395 400		
Val Asn Trp Ile Tyr Arg Val Lys Thr Ile Arg Ser Met Ser Gly Ile 405 410 415		
Thr Gly Glu Asn Ile Ser Val Pro Asp Glu Ile Pro Tyr Asn Tyr Gln 420 425 430		
Met Met Thr Phe Trp Ala Gly Leu Arg Gly Ala Val Gly Val Ala Leu 435 440 445		
Ala Leu Gly Ile Gln Gly Glu Tyr Lys Phe Thr Leu Leu Ala Thr Val 450 455 460		
Leu Val Val Val Val Leu Thr Val Ile Ile Phe Gly Gly Thr Thr Ala 465 470 475 480		
Gly Met Leu Glu Val Leu Asn Ile Lys Thr Gly Cys Ile Ser Glu Glu 485 490 495		
Asp Thr Ser Asp Asp Glu Phe Asp Ile Glu Ala Pro Arg Ala Ile Asn 500 505 510		
Leu Leu Asn Gly Ser Ser Ile Gln Thr Asp Leu Gly Pro Tyr Ser Asp 515 520 525		
Asn Asn Ser Pro Asp Ile Ser Ile Asp Gln Phe Ala Val Ser Ser Asn 530 535 540		
Lys Asn Leu Pro Asn Asn Ile Ser Thr Thr Gly Gly Asn Thr Phe Gly 545 550 555 560		

CD097PCT.ST25.txt

Gly Leu Asn Glu Thr Glu Asn Thr Ser Pro Asn Pro Ala Arg Ser Ser
565 570 575

Met Asp Lys Arg Asn Leu Arg Asp Lys Leu Gly Thr Ile Phe Asn Ser
580 585 590

Asp Ser Gln Trp Phe Gln Asn Phe Asp Glu Gln Val Leu Lys Pro Val
595 600 605

Phe Leu Asp Asn Val Ser Pro Ser Leu Gln Asp Ser Ala Thr Gln Ser
610 615 620

Pro Ala Asp Phe Ser Ser Gln Asn His
625 630

<210> 25
<211> 1857
<212> DNA
<213> Magnaporthe grisea

<400> 25

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<210> 26
<211> 618
<212> PRT
<213> Magnaporthe grisea

CD097PCT.ST25.txt

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<400> 26
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Val Phe Ala Val Asp Gly Leu Gln Asp Leu Val Ser Phe Asp Tyr Gln
35      40      45
Ile Phe Phe Asn Leu Leu Leu Pro Pro Ile Ile Leu Ser Ser Gly Tyr
50      55      60
Glu Leu His Gln Ala Asn Phe Phe Arg His Ile Gly Thr Ile Leu Thr
65      70      75      80
Phe Ala Phe Ala Gly Thr Phe Leu Ser Ala Val Val Ile Gly Val Ile
85      90      95
Leu Trp Leu Tyr Thr Arg Val Pro Leu Glu Gly Leu Thr Met Asn Trp
100     105     110
Ile Asp Ala Ile Ser Val Gly Ala Thr Leu Ser Ala Thr Asp Pro Val
115     120     125
Thr Ile Ile Ala Ile Phe Asn Ser Tyr Lys Val Asp Pro Lys Leu Tyr
130     135     140
Thr Ile Ile Phe Gly Glu Ala Ile Leu Asn Asp Ala Val Ala Ile Val
145     150     155     160
Ile Phe Glu Ser Ala Gln Lys Ser Ala Arg Gly Leu Thr Lys Gly Ser
165     170     175
Ala Ala Gly Ile Ser Thr Phe Phe Trp Gly Phe Trp Ile Phe Leu Arg
180     185     190
Asp Phe Phe Gly Ser Leu Phe Ile Gly Ala Leu Leu Gly Ile Leu Thr
195     200     205
Ala Leu Met Leu Lys Tyr Thr Tyr Leu Arg Arg Phe Pro Lys Leu Glu
210     215     220
Ser Cys Leu Ile Val Leu Ile Ala Tyr Ala Thr Tyr Tyr Phe Ser Gln
225     230     235     240
Ala Ile His Met Ser Gly Ile Val Ser Leu Leu Phe Cys Gly Ile Thr
245     250     255
Leu Lys His Tyr Ala Tyr Phe Asn Met Ser Arg Arg Thr Gln Leu Thr
260     265     270
Thr Lys Tyr Met Phe Gln Val Leu Ala Gln Leu Ser Glu Asn Phe Ile
275     280     285
Phe Ile Tyr Leu Gly Val Ser Leu Phe Thr Asp Lys Asp Leu Gln Phe
290     295     300

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CD097PCT.ST25.txt

Gln Pro Leu Leu Ile Ile Val Thr Val Met Ala Val Cys Ala Ala Arg
 305 310 315 320
 Trp Val Ala Val Phe Pro Leu Ser Trp Ala Ile Asn Trp Phe His Lys
 325 330 335
 Tyr Arg Ala Glu Arg Arg Gly Ile Lys Asn Val Pro Glu Glu Leu Pro
 340 345 350
 Tyr Lys Tyr Gln Gly Met Leu Phe Trp Ala Gly Leu Arg Gly Ala Val
 355 360 365
 Gly Val Ala Leu Ala Ala Leu Leu Thr Ala Lys Asp His Arg Ala Phe
 370 375 380
 Lys Ala Thr Val Leu Val Val Val Val Leu Thr Val Ile Ile Phe Gly
 385 390 395 400
 Gly Thr Thr Val Asn Val Leu Glu Ile Leu Glu Ile Arg Thr Gly Val
 405 410 415
 Thr Asp Glu Ile Asp Ser Asp Asp Glu Phe Asp Ile Glu Ala Val Gly
 420 425 430
 Gly Tyr Tyr Lys Arg Ser Gly Asn Gly Ile Gly Tyr Ser Pro Ala Gly
 435 440 445
 Arg Asn Gly Val Val Pro Leu Asp Thr Arg Pro Gly Arg Arg Arg Asp
 450 455 460
 Ser Asn Gly Ala Val Gly Gly Arg Asp Ala Ser Gly Trp Ser Ser Gly
 465 470 475 480
 His Arg Ser Pro Leu Ser Ala Ala Arg Pro Gly Ser Leu Val Arg Thr
 485 490 495
 Gly Ser Thr Arg Glu Glu Ala Glu Arg Leu Asp Leu Leu Gly Asn Pro
 500 505 510
 Gly Gly Ser Thr Asp Ser Asp Asp Phe Gly Ser Asp Ile Asp Thr Ser
 515 520 525
 Asp Leu Pro Pro Pro Ala Pro Arg Arg Arg Ser Ser Pro Met Pro Pro
 530 535 540
 Thr Gly Asp Glu Glu Ala Ala Gly Leu Pro Ala Gly Gly Ser Arg Thr
 545 550 555 560
 Arg Ser Asn Thr Glu Thr Gly Gly Leu Ser Ala Thr Ala Ala Ile Arg
 565 570 575
 Gln Leu Phe Ser Thr Glu Asp Pro Thr Ala Leu Phe Arg Gln Leu Asp
 580 585 590
 Glu Asp Tyr Ile Lys Pro Lys Leu Leu Leu Asp Gly Gly Ala Gly Arg
 595 600 605

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 Gly Asn Gly Gly Gly Ala Gly Gly Ser Ser
 610 615

<210> 27
 <211> 654
 <212> DNA
 <213> *Oryza sativa*

<400> 27
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 ttattgtaaa gttctacaaa gctaatttaa aagttattgc attaacttat ttcatattac 180
 aaacaagagt gtcaatggaa caatgaaaac catatgacat actataattt tgtttttatt 240
 attgaaatta tataattcaa agagaataaa tccacatagc cgtaaagttc tacatgtggt 300
 gcattaccaa aatatatata gcttacaaaa catgacaagc ttagtttgaa aaattgcaat 360
 ccttatcaca ttgacacata aagttagtga tgagtcataa tattattttc ttgctaccc 420
 atcatgtata tatgatagcc acaaagttac tttgatgatg atatcaaaga acatttttag 480
 gtgcacctaa cagaatatcc aaataatatg actcacttag atcataatag agcatcaagt 540
 aaaactaaca ctctaaagca accgatggga aagcatctat aaatagacaa gcacaatgaa 600
 aatcctcatc atccttcacc acaattcaaa tattatagtt gaagcatagt agta 654

<210> 28
 <211> 941
 <212> DNA
 <213> *Zea mays*

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 ataatttata gtactacaat aatatcagtg ttttagagaa tcatataaat gaacagttag 180
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 tttattagta catccattta gggtttaggg ttaatggttt ttatagacta attttttag 360
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 atacccttta agaaattaaa aaaactaagg aaacattttt cttgtttcga gtagataatg 540
 ccagcctggt aaacgccgtc gacgagtcta acggacacca accagcgaac cagcagcgtc 600
 gcgtcgggcc aagcgaagca gacggcacgg catctctgtc gctgcctctg gacctctctc 660
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 agcggcagac gtgagccggc acggcaggcg gctcctcct cctctcacgg cagggcagct 780
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<210> 29
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 <213> Artificial sequence

<220>
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<400> 29
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<210> 30

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<211> 48
<212> DNA
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<220>
<223> primer: prm3123

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48